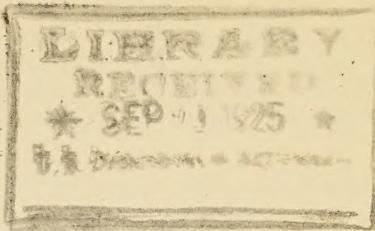


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UNITED STATES DEPARTMENT OF AGRICULTURE

Extension Service
Office of Exhibits

A Summary of the Exhibit

VINEGAR, PICKLES AND SAUERKERAUT

A booth exhibit showing how to make these products in the home.

Specifications

Floor space - - - - - 13' front, 8' deep.
Wall space - - - - - None.
Shipping weight - - - - 710 lbs.
Electrical requirements - None

VINEGAR, PICKLES AND SAUERKRAUT

How It Looks

This exhibit may be classed as a pictorial, demonstration recipe booth and deals with the making of vinegar, pickles and sauerkraut. The makeup of the booth should appeal especially to wives and daughters who are interested in making these three products in their own home.

The booth is finished in clear white and somewhat resembles a portion of a kitchen. The four pictures on each section show how the different necessary operations should be done. Each picture is fully described by the text just below it.

The small cabinets with each section contain cutouts, representing the materials and equipment necessary for making the product described on the section to which the cabinet is attached.

The booth is 13 feet across the front and 8 feet deep and 8 feet, 6 in. high.

What It Tells

Vinegar can be made very readily in the home from any fruit which contains sufficient fermentable sugar. Very often fruit which would otherwise be lost can be utilized in this way.

Open-top, straight-side, stone jars holding four to six gallons are the best receptacles for making vinegar in the home.

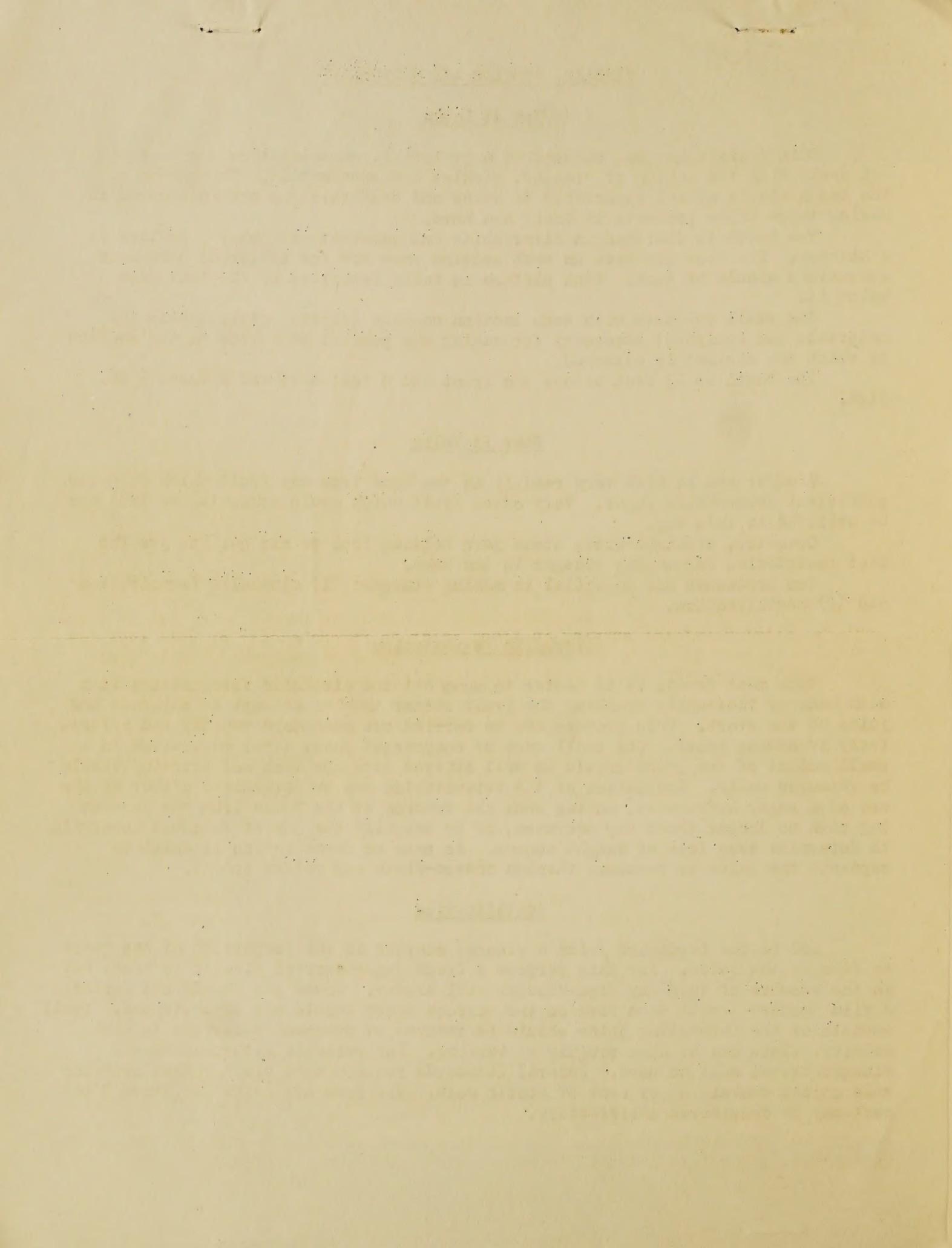
Two processes are essential in making vinegar: (1) alcoholic fermentation and (2) acetification.

Alcoholic Fermentation

With most fruits it is better to carry out the alcoholic fermentation in a mash made by thoroughly crushing the fruit rather than to attempt to separate the juice at the start. This process can be carried out much more rapidly and effectively by adding yeast. One small cake of compressed yeast after maceration in a small amount of the juice should be well stirred into the mash and stirring should be repeated daily. Completion of the fermentation can be determined either by the use of a sugar hydrometer, noting when the reading of the juice from the fermenting mash no longer shows any decrease, or by weighing the jar at frequent intervals to determine when loss of weight ceases. As soon as fermentation is complete separate the juice by pressure through cheese-cloth and return to jar.

Acetification

Add to the fermented juice a vinegar starter in the proportion of one quart to four of the juice. For this purpose a fresh unpasteurized vinegar is best, but in the absence of this any good vinegar will answer. Cover jar and do not agitate. A film (mother) will soon form on the surface which should not be disturbed. Small amounts of the fermenting juice should be removed at frequent intervals to test acidity. This can be done roughly by tasting. For reliable determinations a vinegar tester must be used. Federal Standards require that vinegar when made for sale should contain 4 per cent of acetic acid. For home use acidities above 3 per cent may be considered satisfactory.



Final Preservation

After the desired degree of acidity has been reached vinegar should at once be filtered through canton flannel and bottled. Bottles should be filled full and sealed tightly.

DIRECTIONS FOR MAKING PICKLES

Receptacles

The best receptacles for making pickles are straight-side, open-top, stone jars, clean water-tight kegs, or barrels. These should be provided with lids to exclude dirt, insects, etc. A four-gallon jar is a very convenient size for household use.

Salt Pickles

Weigh the cucumbers and pack in jar. Add enough 10 per cent brine (1 pound of salt to 9 pints of water) to cover all except the top layer. Cover with board or plate and weight down. Add at once or not later than the following day 1 pound of salt for each 10 pounds of cucumbers used. At the end of one week and each succeeding week for five weeks, add 1/4 pound of salt for each 10 pounds of cucumbers. In adding salt always add over the cover in order that it may dissolve slowly and completely. Pickles should remain in brine until perfectly cured. This is shown by a greater firmness in texture and by a uniform change to a dark or olive color. After a partial soaking in fresh water to remove excess of salt they may be eaten as salt pickles. To make either sour or sweet pickles, soak in fresh water until they have only a very slightly salty taste.

Sour Pickles

To make sour pickles, cover with a clear vinegar which should contain not less than 4 per cent of acetic acid. After a few weeks discard this vinegar, which will have become greatly reduced in strength, and cover again with a fresh vinegar.

Sweet Pickles

To make sweet pickles, cover first with plain vinegar. After a week or ten days discard this vinegar and replace with vinegar to which sugar has been added in the proportion of 4 pounds to the gallon. If this does not give the required degree of sweetness, gradually add more sugar until the desired sweetness is obtained. Mixed spices are usually added in making sweet pickles.

Dill Pickles

Dill pickles are made by fermenting cucumbers in a weak brine. This should contain about 5 per cent of salt ($\frac{1}{2}$ pound to 9 pints of water). The addition of spices are not essential to this type of fermentation. They are added only for flavoring. Many prefer the flavor of the dill herb. When this is used a layer of the herb should be placed at the bottom of the jar and also over the top of the cucumbers. Others prefer the flavor of mixed spices, which should be added in the

proportion of 1 ounce to 4 gallons of cucumbers. Vinegar is sometimes used as a flavor in the proportion of 1 pint to 2 gallons of brine. Any or all of the above may be used or omitted as desired. The weak brine permits a rapid fermentation if carried out in warm room as it should be and the pickles should be ready for use in about two weeks. Such a brine, however, will not preserve the pickles for more than about three weeks unless air is excluded in some way. As soon as properly fermented, which may be determined by their flavor, transfer the pickles to two-quart glass jars and cover with their own brine or with a weak brine made as directed. This brine should first be heated to the boiling point and then allowed to cool to about 160° F. before use. Fill the jars full and seal at once tightly.

HOW TO MAKE AND PRESERVE SAUERKRAUT IN THE HOME

For making sauerkraut in the home, straight-side, open-top stone jars holding from four to six gallons afford the best receptacles. For larger amounts clean kegs or barrels may be used. Use firm well-matured heads of cabbage, strip off the outer green or dirty leaves, quarter the heads and slice off the core portion. For shredding, one of the hand-shredding machines which can be obtained on the market is much the best, but an ordinary slaw cutter will serve. Mix salt with the shredded cabbage in the proportion of $2\frac{1}{2}$ per cent of its weight. Two ounces of salt for each five pounds of cabbage gives the proper proportion. This is best done by mixing before it is packed in the jar. Pack firmly but not too tightly in the jar or keg. Cover with a double layer of cheese-cloth and with a board cover and weight down. The salt soon withdraws the juice from the cabbage and if properly weighted the brine thus formed will come up around the cover. The fermentation should be carried out in a warm place, a temperature of about 86° F. being the most favorable. At this temperature the fermentation should be completed in from six to eight days. If it can then be stored in a very cool place, the surface well protected from dirt and insects and scum frequently removed, it will keep quite awhile, possibly as long as desired. The best method, however, to preserve sauerkraut is to transfer as soon as fermented to glass jars. Fill the jars full preferably with the kraut brine or in lieu of this with a brine made by adding 1 ounce of salt to a quart of water. Heat in a water bath until the center of the jars show a temperature of about 160° F. Seal at once tightly and store in a cool place. It has been found that kraut preserved in this way can be kept as long as one year in good condition.

The foregoing directions for making pickles, vinegar and sauerkraut in the home have been prepared with a view to the possibility of their being carried out with the aid only of such equipment as is ordinarily found in a well conducted household. It is possible, however, to carry out these operations with greater ease and accuracy with the aid of the following apparatus:

The salinometer is an instrument for measuring the salt strength of brines. It is graduated from 0 to 100, a reading of 20° indicating a 5 per cent salt solution and 40° a 10 per cent solution.

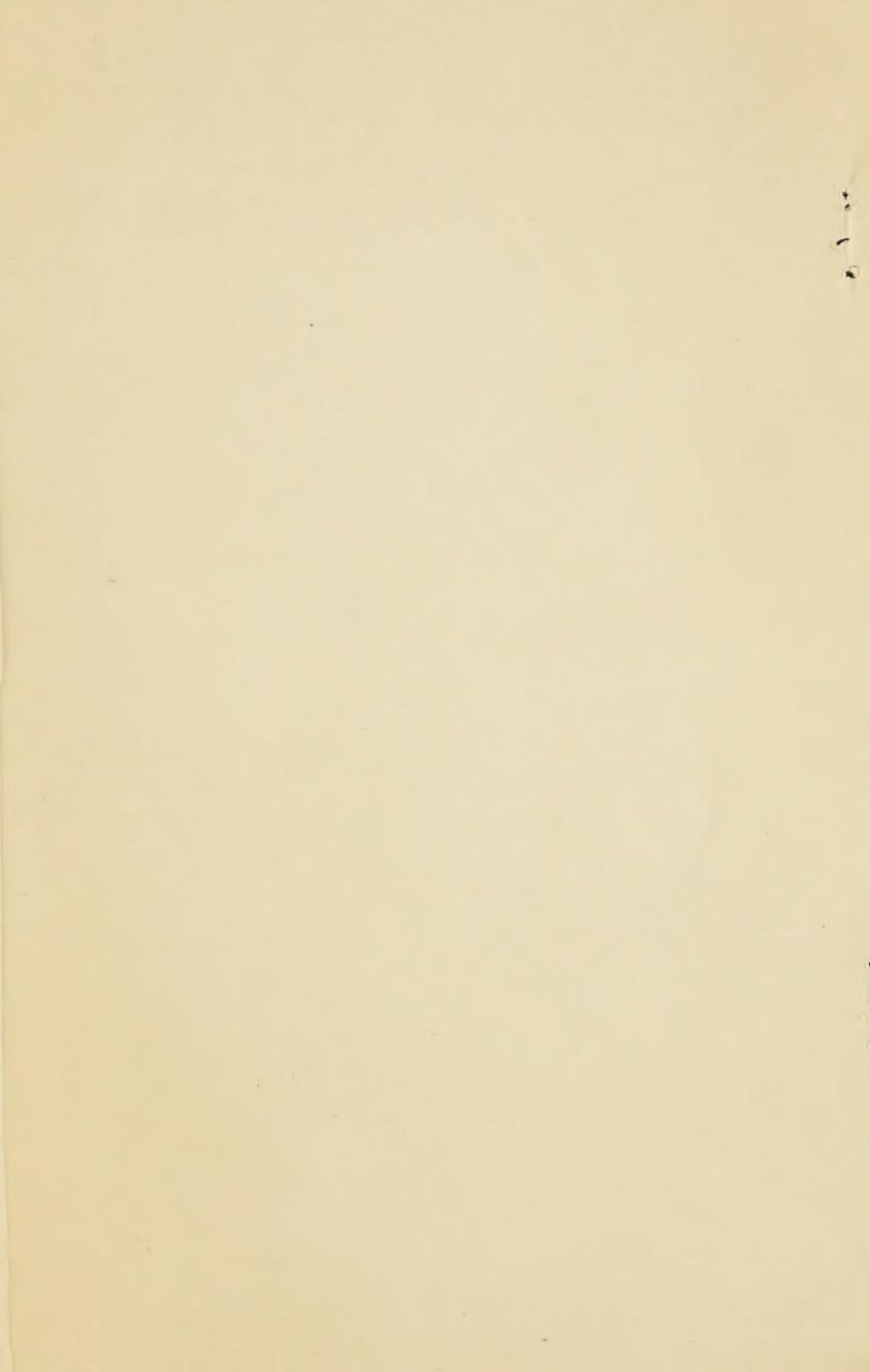
A sugar hydrometer is used for determining approximately, at least, the amount of sugar in any solution, including fruit juices. A Balling hydrometer graduated from 0° to 70° will serve for making any test for sugar content that may be desirable in these operations.

Some form of apparatus for testing the degree of acidity in fermenting solutions is useful though not absolutely essential in making vinegar for home use.

All of the above apparatus may be purchased from firms dealing in scientific apparatus and supplies, and usually can be obtained through local drug stores.

Where to Get Information

For more complete information in regard to making any of these products send for Farmers' Bulletin No. 1438, "Making Fermented Pickles," and Farmers' Bulletin No. 1424, "Making Vinegar in the Home and on the Farm". These bulletins may be obtained free of charge from the U. S. Department of Agriculture, Washington, D. C.



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